

Fusinus anni (Gastropoda: Fascioliariidae), A new Species from Southeastern Australia

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ABSTRACT

A new species is described from southeastern Australia. The shell, operculum and radula are described.

INTRODUCTION

In the northern summer of 1985 the author obtained 13 specimens of a new fasciolarid from two American shell dealers. The dealers had obtained their specimens from the Switzer family who had brought these shells up while prawn fishing on the continental shelf off Greenwell Point, approximately 12 km from Nowra in New South Wales.

Specimens of this new species were deposited in the collections of the Australian Museum, Sydney (AM), the Museum of Victoria (MV), and the Academy of Natural Sciences, Philadelphia (ANSP). When Dr. Winston Ponder of the Australian Museum obtained the holotype specimen he wrote back indicating that the Australian Museum had previously collected this same species between 1975 and 1979 with the research vessel FRV "Kapala". He was kind enough to furnish additional type material from their collections which has been deposited in the United States National Museum, Smithsonian Institution (USNM), the Museum National d'Histoire Naturelle, Paris (MNHN), and the Western Australian Museum (WAM). Further specimens, including several wet lots, have been retained at the Australian Museum. The Switzers saved shells and some opercula but discarded the soft parts of the shells they obtained. Dr. Ponder has kindly furnished a drawing of the radula of this species (Fig. 1).

TAXONOMY

Family: Fascioliariidae Gray, 1853
Subfamily: Fusininae Swainson, 1840
Genus: *Fusinus* Rafinesque, 1815

Type Species: *Fusinus colus* Linné, 1758

Fusinus anni M. Snyder sp. nov.
(Plate 1, Figure 1)

Description of Shell

Shell moderately large for the genus, 50mm-72mm; profile inflated, fusiform, of about 10 whorls. Protoconch is smooth, mammilate, and gray-tan in color (see Plate 1c). Teleconch has strong axial ribs through to the body whorl, numbering 12 to 15 on the body whorl. These ribs are rounded in profile and are crossed by about five strong spiral costae, all about equal in size. These costae crossing the axial ribs make the shell surface appear granular. On the body whorl these costae extend up the siphonal canal, becoming evanescent at the anterior end. There are approximately seven fine spiral threads between the main costae (visible only under magnification) which are roughly equal in size and equally spaced. The aperture is ovate and opens directly into the siphonal canal; the anterior end of the aperture is formed by a protrusion on the columella.

The parietal callus is extended with the spiral costae showing through the columellar border, especially at the posterior end of the aperture. The outer lip is smooth and rather ragged. The siphonal canal is slender and in some specimens somewhat recurved. The aperture and siphonal canal together are typically a bit more than one-half of the length of the shell. The color is pale orange buff with whitish spiral costae, but entirely white where the costae are intercepted by the axial ribs. The periostracum is thin and dark cocoa-brown. The operculum is typically fasciolarid, chitinous, and with a terminal nucleus. Fine oval threads encircle both the inside and outside, and it more or less fills the aperture. A magnified drawing of the radula is shown in Figure 1 below.



FIGURE 1

Radula of *Fusinus anni* (sp. nov.), specimen from off Two Fold Bay, NSW (40x10, courtesy of W.F. Ponder)



PLATE 1

Fusinus anni sp.nov. Holotype, left. 66mm paratype, centre. Upper whorls of paratype, right.

Remarks

Six protoconchs have been examined and all are smooth, resembling the figured specimen. Although the protoconch looks "worn" there is no sign under magnification of surface erosion. It is perhaps worth noting that dead-dredged specimens are more or less uniformly grey in color. Finally, as mentioned above, the aperture and siphonal canal together constitute about half the length of the shell. The shell is roughly three times as long as broad. We append a table showing measurements for six typical specimens (all measurements are in mm):

Length	Width	Canal Length	Number of Axial Ribs	Aperture (W x L)	Whorls
72	24	22	13	11 x 15	10
61	18	20	12	10 x 12	10
66	19	21	15	8 x 13	10
64	19	19	12	9 x 11	10
69	23	21	13	10 x 14	10
61	20	20	13	9 x 12	9+

Type Material

Holotype

- AM C-148026 — dredged alive in prawn nets off Greenwell Point near Nowra, NSW, 457m, February 1985 (66mm; soft parts were discarded but operculum was retained).

Paratypes

- ANSP 359812 — dredged alive in prawn nets off Greenwell Point near Nowra, NSW, 457m, February 1985 (61mm, with operculum).
- USNM 845491 — 33° 37-41' S, 151° 57-54' E, off Sydney, NSW, 439m, by K.J. Graham, FRV "Kapala", October 1979 (67mm).
- MV F52355 — dredged alive in prawn nets off Greenwell Point near Nowra, NSW, 457m, February 1985 (60mm).
- MNHN (no catalog number) — 34° 22-19' S, 151° 23-25' E, off Wollongong, NSW, 439m, by K.J. Graham, FRV "Kapala", December 1978 (65mm).
- WAM 1142-85 — 33° 45-48' S, 151° 52-50' E, off Sydney, NSW, 513m, by K.J. Graham, FRV "Kapala", October 1979 (72mm).
- AM C-125568 — 33° 26-24' S, 152° 06-07' E, off Sydney, NSW, 457-476m by P. Colman, B. Jenkins, and R. Springthorpe, FRV "Kapala", December 1980 (69mm, 66mm, 63mm, all dead).

- AM C-108842 — 33° 43-40' S, 151° 51-53' E, off Sydney, NSW, 457m, by K.J. Graham, FRV "Kapala", May 1977 (74mm, 65mm, both dead).
- AM C-148025 (wet lot) — 35° 39-32' S, 151° 15-19' E, east of Kiama, NSW, 412m, by K.J. Graham and P. Colran, FRV "Kapala", December 1975 (64mm, 62mm, 59mm, 57mm, 54mm, 52mm, 52mm, 48mm).

Range

The shell has been dredged on the continental shelf off southeastern Australia between 33° and 35° S and 151° and 153° E in depths of 412m-513m. It is apparently fairly common at this depth and no doubt occurs in a more extended region off southeastern Australia.

DISCUSSION

Fusinus anni appears superficially, based upon gross shell characteristics, to be related to the subgenera *Pseudolatirus* Bellardi, 1884 and *Granulifusus* Kuroda and Habe, 1952. The columella, however, lacks the one or two plicae characteristic of *Pseudolatirus*, and the operculum of this species is abnormally large for the subgenus *Granulifusus*. For that reason this species has been assigned to the genus *Fusinus* although the shell characteristics do not relate as closely to known members of this genus as they do (superficially) to the two subgenera discussed above.

In the genus *Fusinus* the closest relatives to this species are *F. frenguelli* Carcelles, 1952 from Brazil and the typical color form of *F. caparti* Adam and Knudsen, 1955 from West Africa. *F. anni* is readily distinguishable from *F. frenguelli*. The axial ribs as well as the spiral grooves crossing them are generally more numerous on specimens of *F. frenguelli* than on *F. anni*. *F. frenguelli* grows approximately twice as large. *F. caparti* has two distinct color forms, illustrated together on page 87 of Pierre Bernard's *Coquillages du Gabon*. The smaller form, with rust-colored markings on the axial ribs, is the form originally described by Adam and Knudsen (1955). The larger white form was noted by Gustave Cherbonnier (1965). Differentiation from the typical rust-colored form of *F. caparti* is even more pronounced. In *F. caparti* there are approximately 16 axial ribs on the body whorl. The spiral cords are much less pronounced than the encircling costae in *F. anni*. Again, the typical color form of *F. caparti* grows at least twice as large as *F. anni*.

Immature specimens of *F. novaehollandiae* Reeve, 1848 are the only fasciolarid from southeastern Australia which resemble *F. anni*. *F. novaehollandiae* is often characterized in the popular literature as having an "extremely long siphonal canal" and it is indeed this characteristic which readily separates it from comparably-sized specimens of *F. anni*. In an 80mm specimen the aperture and siphonal canal together constitute 63% of the length of the shell. *F. anni* also has about seven spiral threads between the main spiral cords whereas *F. novaehollandiae* has only one such thread. The axial ribs, although similar in number, are not nearly so pronounced and the shell is uniformly white.

This species is named for my wife, a good friend and a helpful critic.

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